



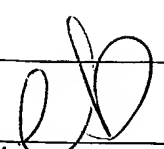
# UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,289	07/09/2003	Masahiko Kubota	03500.017379	7060
5514	7590	10/01/2004	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			HAMILTON, CYNTHIA	
			ART UNIT	PAPER NUMBER
			1752	

DATE MAILED: 10/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/615,289	KUBOTA ET AL	
	<b>Examiner</b>	<b>Art Unit</b>	
	Cynthia Hamilton	1752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 7/9/03, 8/21/03, 11/25/03, 1/12/04.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 24-31 and 35-40 is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-12, 18-23, 32-34 and 41-51 is/are rejected.
- 7) ☒ Claim(s) 8, 13-17, 50 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>08/21/03, 01/12/04</u> . | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. The abstract of the disclosure is objected to because the Abstract submitted has two paragraphs as follows:

**ABSTRACT OF THE DISCLOSURE**

The invention is to provide a method for producing a fine structured member and a fine hollow structure, useful for producing a liquid discharge head which is inexpensive, precise and highly reliable, also to provide a method for producing a liquid discharge head utilizing such producing method for the fine structured member and the fine hollow structure and a liquid discharge head obtained by such producing method.

A positive-working photosensitive material, including a ternary polymer containing an acrylate ester as a principal component, acrylic acid for thermal crosslinking and a monomer unit for expanding a sensitivity region, is used as a material for forming the fine structured member.

Correction is required. See MPEP § 608.01(b)

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. Claim 50 is objected to because of the following informalities: In the last line of claim 50 “glocyl” should be “glycol”. Appropriate correction is required.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Fig. 1A has “1” but no reference to “1” is found in the specification, Fig. 2 has “100”, “101”, “102”, “103”, “104”, “105” and “106”. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Starting at page 22, line 20 in description of Fig 1A reference is made to “substrate 201”. There is no “201” in FIG 1A.. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled “Replacement

Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

6. The drawings are objected to because in FIG. 1D and Fig 1E all of the “4” material seems to disappear and be replaced with “7” material but in describing Fig. 1E on page 27 the “7” material is removed. What happened to “4”. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

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7. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “4” has been used to designate both negative-working photosensitive

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material layer on page 24, lines 17-18 and a “liquid flow path structure member on page 27, lines 9-10. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

8. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: In describing Figs 1A to 1E applicants on page 25 make reference to “209”. There is no “209” in these figures. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

9. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “5” has been used to designate both a “thin water repellant layer” on page 24,

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line 26 and “the ink repellent layer” on page 45, lines 24-25. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

10. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “7” has been used to designate on page 45, line 17, “an etching mask 7” and on page 26, line 18, a “resin” and on page 27, “covering resin” at line 6. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

11. The examiner notes that applicants in claim 15 have called a structure generally known as maleic anhydride as “fumaric anhydride”. The examiner found hits for this “fumaric anhydride”

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but did not find it when searching in the Registry file on Chemical Abstracts except as part of a polymer. The part of the polymer when searched as a single unit was given the name of "maleic anhydride", i.e. RN 108-31-6. The search is cited as "fumaric Anhydride" Search and cited for applicant's use. The term has been used in over 400 US patent documents. The examiner also found Claff (A Translator's Guide to Organic Chemical Nomenclature, Part XII) page 3 of 6 that "Fumaric anhydride does not exist!" in his opinion. In view of the use of the term and the recognition by the RN number that it is equivalent or the same as maleic anhydride, the examiner has considered these terms to be the same for examination purposes.

12. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. Claims 9-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The structure given in claim 9 does not match the name of the compound in claim

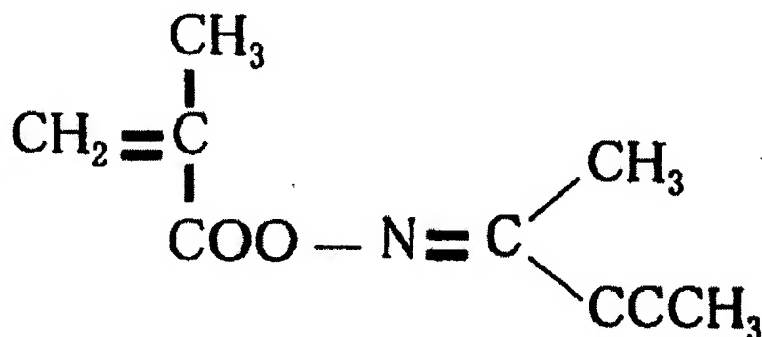
9. The claim is as follows:

9. A method for producing a fine structured member according to claim 1, wherein said factor for expanding the sensitivity region is methyl 3-oximino-2-butanone methacrylate represented by a



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following formula:

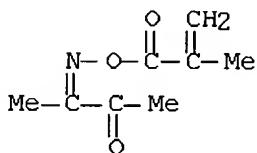


The same formula is

found on page 18 of the specification. However, as can clearly be seen there is no butanone group, i.e. there is no C=O group, and there are two divalent carbons in a chain of five carbons not four. The examiner believes that the two divalent carbons are probably a -C(=O)- group as shown by RN 22288-51-3 as set forth below:

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L28 ANSWER 9 OF 9 REGISTRY COPYRIGHT 2004 ACS on STN  
 RN 22288-51-3 REGISTRY  
 CN 2,3-Butanedione, mono[O-(2-methyl-1-oxo-2-propenyl)oxime] (9CI)  
 (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN 2,3-Butanedione, mono(O-methacryloyloxime) (8CI)  
 CN Methacrylic acid, O-[(1-methylacetyliden)amino] deriv. (8CI)  
 OTHER NAMES:  
 CN 2,3-Butanedione monooxime methacrylate  
 CN 2,3-Butanedione O-(methacryloyl)oxime  
 CN Biacetyl monooxime methacrylate  
 FS 3D CONCORD  
 MF C8 H11 N O3  
 CI COM  
 LC STN Files: CA, CAPLUS, CASREACT, IFICDB, IFIPAT, IFIUDB, TOXCENTER,  
 USPATFULL  
 DT.CA Caplus document type: Journal; Patent  
 RL.P Roles from patents: PREP (Preparation); RACT (Reactant or reagent);  
 USES (Uses)  
 RL.NP Roles from non-patents: BIOL (Biological study); PREP (Preparation);  
 PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES  
 (Uses)



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

18 REFERENCES IN FILE CA (1907 TO DATE)  
 18 REFERENCES IN FILE CAPLUS (1907 TO DATE)

However, she is not sure. Applicants have the right to define any term in the manner they desire.

The structure given by applicants does not make chemical sense because the carbons should be

tetravalent. The same problem exists for claims 32-34. Thus, claims 9-11 and 32-34 are

confusing.

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14. Claims 18-22 and 41-45 and 48/41-45, 49/48/41-45, 50/49/48/41-45 and 51/50/49/48/41-45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 18 is as follows:

18. A method for producing a fine structured  
15 member according to claim 1, wherein a first  
positive-working photosensitive material includes a  
photodegradable resin having at least a carboxylic  
acid anhydride structure.

In claim 1, there is no "first positive-working photosensitive material" and claim 18 does not set forth that the "first positive-working photosensitive material" is used in any manner or related in any manner to the method of claim 1. Is this the "positive-working photosensitive material" of claim 1 or a different material? Thus, the limits of claims 18-22 are unclear. For comparison, claim 1 is as follows:

1. A method for producing a fine structured member on a substrate, comprising:

5 a step of forming a positive-working photosensitive material on a substrate;

a step of heating the layer of said positive-working photosensitive material thereby crosslinking the positive-working photosensitive material layer;

10 a step of executing an irradiation with an ionizing radiation of a wavelength region capable of decomposing said crosslinked positive-working photosensitive material layer on a predetermined area of said crosslinked positive-working photosensitive material layer; and

15 a step of removing, by a development, the area irradiated by the ionizing radiation of said crosslinked positive-working photosensitive material layer from the substrate, thereby obtaining a non-irradiated area by the ionizing radiation of said

20 crosslinked positive-working photosensitive material layer as a fine structured member having a desired pattern on said substrate;

wherein said positive-working photosensitive material includes a ternary copolymer containing

25 methyl methacrylate as a main component, methacrylic acid as a thermally crosslinkable factor and a factor for expanding a sensitivity region for said ionizing

radiation.

The same problem exists with instant claims 41-45 and 48/41-45, 49/48/41-45, 50/49/48/41-45 and 51/50/49/48/41-45 with respect to claim 24. The use of "first positive-working photosensitive material" does not clearly fit in the method of claim 24 where no mention of "first" with respect to the positive-working photosensitive material is made.

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15. Claims 23 and 46 and 48/46, 49/48/46, 50/49/48/46 and 51/50/49/48/46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 23 is as follows:

23. A method for producing a fine structured member according to claim 1, wherein a first  
5 wavelength region is of a shorter wavelength than a second wavelength region.

Reference in claim 23 is made to a first wavelength region and a second wavelength region with respect to the method of claim 1. There is only a wavelength region in the method of claim 1.

Thus, what is meant by making a first wavelength region shorter than a second wavelength region in the method of claim 1 is confusing since there is only one wavelength region set forth.

Claim 46 is as follows:

46. A method for producing a fine hollow structured member according to claim 1, wherein the  
5 first wavelength region is of a shorter wavelength than the second wavelength region.

and has the same problems of confusion. The examiner suspects that claim 46 may have been intended to be made dependent upon another claim than claim 1.

16. Applicant is advised that should claim 23 be found allowable, claim 46 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

17. Claims 47 and 48/47, 49/48/47, 50/49/48/47 and 51/50/49/48/47 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 47 is as follows:

47. A method for producing a fine hollow structured member according to claim 1, wherein said  
10 negative-working photosensitive material includes an epoxy resin as a principal component.

It references "said negative-working photosensitive material" in the method of claim 1. There is no clear antecedent basis for such a negative material in the method of claim 1.

18. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(d) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

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The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an

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international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

19. Claims 1, 2 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Bulgakova et al (Nuclear Instruments and Methods in Physics Research A). With respect to instant claims 1, 2 and 12, the process of Bulgakova et al wherein the MMA-MAA-MAN resist is used in the method set forth on page 489 under *Materials and methods* anticipates the method of the instant invention wherein the prebaking at 160-190 degrees C inherently crosslinks the polymer before imagewise exposure to the ionizing radiation of the soft X ray at 13 nm wavelength. In Bulgakova et al, see also the Introduction and the need to improve the sensitivity of polymethyl methacrylate. MMA is methyl methacrylate, MAA is methacrylic acid and MAN is methacrylonitrile. See in Bulgakova et al, Table 3 for the results in pattern formation of this polymer and Conclusions on page 492.

20. Claims 1-2, 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyagawa et al (EP 0 491 560 A2). With respect to instant claims 1-2 and 6-7, the method of Example 7 of Miyagawa et al anticipates the instant method. Said Example is as follows:

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**Example 7**

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Synthesis, washing and drying of resin were conducted, as the example 6, by mixing 72 parts of distilled methyl methacrylate, 28 parts of glycidyl methacrylate, and 8 parts of methacrylic acid in 100 parts of tetrahydrofuran and adding 0.5 parts of AIBN thereto. Resist solution was prepared by dissolving the obtained resin in diacetone alcohol at a concentration of 25 wt.%, and adding diethylaminopropylamine of 0.5 wt.%.

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On the glass substrate used in the example 6, provided thereon with the electrothermal converter elements, a penetrating hole for ink supply was formed with a diamond drill of 300  $\mu\text{m}\phi$ , in a position constituting a part of the ink channel in the vicinity of the electrothermal converter elements. A film of the resist was formed on the substrate by lamination, in a similar manner as in the example 6. The obtained film was crosslinked by baking for 30 minutes at 120°C, and had a thickness of 30  $\mu\text{m}$ .

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The resist film was exposed to a pattern of the ink channel by means of an electron beam. The exposure was conducted with a dose of 200  $\mu\text{C}/\text{cm}^2$  on an Elionix electron beam writing apparatus ELS-3300. On the resist film, there was formed a film of the resist synthesized in the example 6 by lamination, and baked for 10 minutes at 120°C. The thickness of thus obtained resist film was 20  $\mu\text{m}$ . The substrate was again mounted on the electron beam writing apparatus, and was subjected to the exposure of a pattern of the ink discharge openings, with an exposure dose of 150  $\text{C}/\text{cm}^2$ . Subsequently the first resist film was developed with a 1 : 3 mixture of methylisobutylketone and diethylene glycol, then the second resist film was developed with a 1 : 2 mixture of methylisobutylketone and ethyl alcohol, and the films were cured by heating for 1 hour at 80°C.

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A piece of sponge was placed in an ink tank molded with acrylic resin, and the ink used in the example 6 was filled therein. Then the ink tank was adhered, with epoxy adhesive (Araldite supplied by 3M Co.), in a position on the rear face of the substrate, capable of ink supply to the ink supply opening. Also electric wiring was formed for supplying the electrothermal converter elements with electric signals.

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The above-explained liquid-discharging recording head was capable of stable recording, when it was mounted on a recording apparatus shown in Fig. 10 and was used in a recording operation.

In Miyagawa et al, also see Example 6 for method of making the polymer used in Example 7 and page 14, lines 47-56 as to what is considered ionizing radiation in the art.

21. Claims 1-3 and 18-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Moyer et al (4,330,614) as evidenced by Hatzakis (4,087,569). The process of Example 4 of Moyer et al wherein the methyl methacrylate/methylacrylic acid/methacrylic anhydride terpolymer resist used anticipates the instant method of claims 1-3 and 18-19. Moyer in Example 1 cites U.S. Patent 4,087,569 which is Hatzakis as how their polymer was made. In col. 2 of Hatzakis, the formation of crosslinking is shown for these polymers.

22. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686



F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

23. Claims 1-5, 18-19, and 21 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 of copending Application No. 10/615,302. Although the conflicting claims are not identical, they are not patentably distinct from each other because instant applicant's claims are broader and more generic than the Application claims are. Thus, instant applicant's claims 1-5, 18-19, and 21 are anticipated by claims 1-9 of the Patent. See particularly See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

24. Claims 24-31, 35-40 are allowed.

25. Claims 8, 13-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

26. *Any inquiry concerning this communication or earlier communications from the*

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*examiner should be directed to Cynthia Hamilton whose telephone number is 571-272-1331.*

*The examiner can normally be reached on Monday through Friday 9:30 am to 5:00 pm.*

*If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H Kelly can be reached on (571) 272-0729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.*

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**CYNTHIA HAMILTON  
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September 29, 2004

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